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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/647,259	08/26/2003	Yasunori Suzuki	241973US90	2085
22850	7590	10/17/2006	EXAMINER	
C. IRVIN MCCLELLAND OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			BAYARD, EMMANUEL	
			ART UNIT	PAPER NUMBER
			2611	

DATE MAILED: 10/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.		Applicant(s)	
	10/647,259		SUZUKI ET AL.	
	Examiner		Art Unit	
	Emmanuel Bayard		2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-6 are rejected under 35 U.S.C. 102(e) as being anticipated by Pinckley et al U.S. Patent No 6,983,026 B2.

As per claim 1, Pinckley et al teaches a transmitter comprising: an input-side digital multi-port directional coupler for dividing and combining digital transmission signals of N channels by digital processing and for outputting N-channel signals to N transmission channels, respectively (see figs.2, 8 element 203, and col.4, lines 20-67 and col.8, lines 15-25); predistorters inserted in said N transmission channels, respectively, for linearizing said N transmission channels (see figs. 2, 8 elements 206, 806 and col.5, lines 60-67 and col.6, lines 10-15 and col.7, lines 40-67 and col.17, lines 56-67); transmitting parts inserted in said N transmission channels, respectively, for converting (see figs. 2, 8 element 209 and col.6, lines 50-67) output signals from said predistorters to high-frequency signals of said N channels; and an output-side multi-port power combiner for dividing and combining said high-frequency signals of said N transmission channels to output high-frequency transmission signals for said N

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transmission channels (see figs. 2, 8 element 211 and col.8, lines 23-26).

As per claim 2, Pinckley et al teaches further comprises receiving parts of said N channels for extracting distortion components from said high-frequency signals of N channels and for generating, based on said distortion components, compensating signals which control said linearization by said predistorters of N channels, and wherein, based on said compensating signals, said predistorters of N channels generate compensating distortions for canceling nonlinear distortions by said N transmission channels and impart said compensating distortions to signals of N channels, respectively (see figs. 1, 2, 8 elements 117, 253-255 and col.3, line 40 and col.7, lines 34-40).

As per claim 3, Pinckley et al teaches, wherein said predistorters of N channels are digital predistorters of N channels for imparting said compensating distortions to said signals of N channel by digital processing, and which further comprises: digital-to-analog converters (see figs. 2, 8 element 233) of N channels for converting the outputs from said predistorters of N channels to analog signals of N channels and for applying said analog signals of N channels to said transmitting parts of N channels, respectively; and digital-to-analog converters of N channels for converting said compensating signals from said receiving parts of N channels to digital compensating signals and for applying said digital compensating signals to said digital predistorters of N channels (see figs. 2, 8 and col.6, lines 59-67).

As per claim 4, Pinckley et al teaches, wherein said predistorters of N channels are analog predistorters, and which further comprises digital-to-analog converters of N

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channels for converting said signals of N channels output from said input side digital multi-port directional coupler to analog signals for application to said digital predistorters of N channels, said receiving parts of N channels providing said compensating signals to said digital predistorters (see figs. 2, 8 and col.6, lines 59-67).

As per claim 5, Pinckley et al teaches wherein each of said transmitting parts of N channels includes: an up-converting part (see figs. 2, 8 element 237) for the corresponding one of said signals of N channels to a high-frequency signal of the transmission frequency band; and a power amplifier for amplifying the power of said high-frequency signal and for applying said power-amplified high-frequency signal to said output side multi-port directional coupler (see figs. 2, 8 element 231 or 241 and col.7, lines 5-34).

As per claim 6, Pinckley et al teaches wherein each of said receiving parts of N channels includes: receiver (117) inherently teaches the claimed limitation (detecting part for detecting the corresponding one of said high-frequency signals of N channels; a band-pass filter for extracting a distortion component by said power amplifier from said detected output) (see fig.1); and a control part for (see fig.8 element 813 and col.14, line 32) generating said compensating signal based on said distortion component.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Cole et al U.S. Patent No 6,363,033 B1 teaches a method and apparatus for transmit beam forming system.

Shattil U.S. Patent No 7,076,168 B1 teaches a method and apparatus for using multicarrier interferometry.

Ma et al U.S. Patent No 6,859,643 B1 teaches a power amplifier.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel Bayard whose telephone number is 571 272 3016. The examiner can normally be reached on Monday-Friday (7:Am-4:30PM) Alternate Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571 272 2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

10/13/06

Emmanuel Bayard
Primary Examiner
Art Unit 2611


EMMANUEL BAYARD
PRIMARY EXAMINER